

RECEIVED
CENTRAL FAX CENTER
JAN 09 2008

Docket No. F-8660

Ser. No. 10/553,173

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1.-10. (Canceled)

11. (Currently Amended) A clamp device for clamping an object to a support base, comprising:

a body detachably secured to the support base;

a pressing member for clamping the object;

a rotary member;

the body, the pressing member, and the rotary member being combined so as to rotate relative to each other about an axis;

the pressing member rotating between a first rotary position not axially facing the object and a second rotary position axially facing the object; and

the rotary member rotating between one rotary position on the first rotary position side and another rotary position past a middle rotary position on the second rotary position side;

the pressing member axially translating between a press releasing position on a press releasing side and a pressing position on a pressing side so as to press the object by the pressing member and release the object from the pressing member

Docket No. F-8660

Ser. No. 10/553,173

in the second rotary position, the pressing member remaining in the second rotary position and axially translating between the press releasing position and the pressing position when the rotary member is rotating between the middle rotary position and the other rotary position;

a contact means for transmitting rotational force from the rotary member to the pressing member when the rotary member is rotating between the one rotary position on the first rotary position side and the middle rotary position on the second rotary position side and for thereby causing the pressing member and the rotary member to rotate contact with each other so that the pressing member rotates between the first rotary position and the second rotary position as the rotary member rotates;

a holding means for holding the pressing member in the press releasing position between the first rotary position and the second rotary position;

a rotary range restricting means for preventing the pressing member from rotating from the second rotary position to a side opposite the first rotary position so that the pressing member does not rotate when the rotary member is rotating between the middle rotary position and the other rotary position; and

an interlock means for moving the pressing member positioned in the second rotary position, between the press releasing position and the pressing position, and interlocking with the rotation of the rotary member between the middle rotary position and the other rotary position;

Docket No. F-8660

Ser. No. 10/553,173

the interlock means comprising a guide means for axially guiding the rotary member with the rotation of the rotary member, and a support means for supporting the pressing member so that said pressing member moves between the press releasing position and the pressing position as the rotary member axially translates;

the guide means comprising a guided projection provided in one of the body and the rotary member, and a first guide surface provided in the other of the body and the rotary member, for guiding the guided projection relative to the first guide surface;

wherein, when the rotary member rotates from the one rotary position to the middle rotary position, the pressing member, while being held in the press releasing position by the holding means, rotates by the contact means from the first rotary position to the second rotary position as the rotary member rotates, and

wherein, when the rotary member rotates from the middle rotary position to the other rotary position, the pressing member, while remaining in the second rotary position by the rotary range restricting means, moves from the press releasing position to the pressing position by the interlock means to press the object, and

wherein, when the rotary member rotates from the other rotary position to the one rotary position side, the pressing member moves by the interlock means from the pressing position to the press releasing position side, and the pressing

Docket No. F-8660

Ser. No. 10/553,173

member rotates by the contact means from the second rotary position to the first rotary position as the rotary member rotates,

wherein the other of the body and the rotary member includes a second guide surface for guiding the guided projection relative to the second guide surface when the rotary member rotates between the one rotary position and the middle rotary position;

wherein the first guide surface and the second guide surface are formed with respective gradients that are not vertical and the first guide surface is smaller in gradient than the second guide surface; and

wherein the pressing member, while being in the press releasing position, is guided by the guided projection and the second guide surface, the holding means, and the contact means, so that said pressing member moves from a side distant from the pressing position to a side near the pressing position as the pressing member rotates from the first rotary position to the second rotary position.

12. (Previously Presented) The clamp device according to Claim 11, wherein

the body has an axial bore;

the rotary member has a shank portion that is rotatably inserted in the axial bore so that the rotary member axially rotates; and

Docket No. F-8660

Ser. No. 10/553,173

the pressing member has a through-hole for the shank portion to pass and axially rotates relative to the rotary member.

13. (Previously Presented) The clamp device according to Claim 11, wherein

the rotary range restricting means comprises a projection disposed in one of the body and the pressing member; and a recess formed in the other of the body and the pressing member, and receiving the projection for movement therein, and

when the pressing member rotates from the first rotary position to the second rotary position, the projection moves relative to and within the recess and comes into contact with the inside surface thereof, resulting in prevention of further movement of the projection.

14. (Previously Presented) The clamp device according to Claim 11, wherein

the holding means comprises a resilient body for urging the pressing member toward the press releasing position from the pressing position.

15. (Previously Presented) The clamp device according to Claim 11, wherein the support means comprises a resilient element for urging the pressing member toward the press releasing position from the pressing position and a

Docket No. F-8660

Ser. No. 10/553,173

receiving portion disposed in the rotary member for receiving the pressing member against the urging force of the resilient element.

16. (Previously Presented) The clamp device according to Claim 11, wherein

the contact means comprises a resilient member for urging so that a first sliding surface and a second sliding surface of the pressing member and the rotary member facing each other come into tight contact.

17. (Previously Presented) The clamp device according to Claim 16, wherein

the contact means comprises: the resilient member, an engagement recess provided in one of the pressing member and the rotary member, and an engagement member that is provided in the other of the pressing member and the rotary member, said engagement member including an engagement portion resiliently urged to releasably engage the engagement recess.

18. (Currently Amended) A clamp device for clamping an object to a support base, comprising:

a body detachably secured to the support base;

a pressing member for clamping the object;

Docket No. F-8660

Scr. No. 10/553,173

a rotary member;

the body, the pressing member, and the rotary member being combined so as to rotate relative to each other about an axis;

the pressing member rotating between a first rotary position not axially facing the object and a second rotary position axially facing the object; and

the rotary member rotating between one rotary position on the first rotary position side and another rotary position past a middle rotary position on the second rotary position side;

the pressing member axially translating between a press releasing position on a press releasing side and a pressing position on a pressing side so as to press the object by the pressing member and release the object from the pressing member in the second rotary position, the pressing member remaining in the second rotary position and axially translating between the press releasing position and the pressing position when the rotary member is rotating between the middle rotary position to the other rotary position;

a contact means for transmitting rotational force from the rotary member to the pressing member when the rotary member is rotating between the one rotary position on the first rotary position side and the middle rotary position on the second rotary position side and for thereby causing the pressing member and the rotary member to rotate contact with each other so that the pressing member rotates

Docket No. F-8660

Ser. No. 10/553,173

between the first rotary position and the second rotary position as the rotary member rotates;

a holding means for holding the pressing member in the press releasing position between the first rotary position and the second rotary position;

a rotary range restricting means for preventing the pressing member from rotating from the second rotary position to a side opposite the first rotary position so that the pressing member does not rotate when the rotary member is rotating between the middle rotary position and the other rotary position; and

an interlock means for moving the pressing member positioned in the second rotary position, between the press releasing position and the pressing position, and interlocking with the rotation of the rotary member between the middle rotary position and the other rotary position;

the interlock means comprising a guide means for axially guiding the rotary member with the rotation of the rotary member, and a support means for supporting the pressing member so that said pressing member moves between the press releasing position and the pressing position as the rotary member axially translates;

the guide means comprising a guided projection provided in one of the body and the rotary member, and a first guide surface being the inside peripheral surface of the first elongate slot and provided in the other of the body and the rotary member, for guiding the guided projection relative to the first guide surface;

Docket No. F-8660

Ser. No. 10/553,173

wherein, when the rotary member rotates from the one rotary position to the middle rotary position, the pressing member, while being held in the press releasing position by the holding means, rotates by the contact means from the first rotary position to the second rotary position as the rotary member rotates, and

wherein, when the rotary member rotates from the middle rotary position to the other rotary position, the pressing member, while remaining in the second rotary position by the rotary range restricting means, moves from the press releasing position to the pressing position by the interlock means to press the object, and

wherein, when the rotary member rotates from the other rotary position to the one rotary position side, the pressing member moves by the interlock means from the pressing position to the press releasing position side, and the pressing member rotates by the contact means from the second rotary position to the first rotary position as the rotary member rotates, and

wherein the other of the body and the rotary member includes a second guide surface being the inside peripheral surface of a second elongate slot continuous from the first elongate slot, and said second guide surface guiding the guided projection relative to the second guide surface when the rotary member rotates between the one rotary position and the middle rotary position;

wherein the first guide surface and the second guide surface are formed with a gradient that is not vertical; and

Docket No. F-8660

Ser. No. 10/553,173

wherein the pressing member, while being in the press releasing position, is guided by the guided projection and the second guide surface, the holding means, and the contact means, for moving from a side distant from the pressing position to a side near the pressing position as the pressing member rotates from the first rotary position to the second rotary position.